

10/536806

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New claims

1. An antifreeze concentrate for cooling systems in fuel cell drives, from which ready-to-use aqueous coolant compositions having a conductivity of not more than 50 μ S/cm, which substantially comprise
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- (a) from 10 to 90% by weight of 1,3-propanediol or mixtures of 1,3-propanediol with alkylene glycols and/or derivatives thereof,
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- (b) from 90 to 10% by weight of water,
- (c) from 0.005 to 5% by weight of one or more five-membered heterocyclic compounds (azole derivatives) having 2 or 3 hetero atoms from the group consisting of nitrogen and sulfur, which contain no sulfur atom or not more than one sulfur atom and which may carry an aromatic or saturated six-membered fused moiety and
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- (d) if required, ortho-silicic esters,
- result by dilution with ion-free water.
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2. An antifreeze concentrate for cooling systems in fuel cell drives as claimed in claim 1, containing altogether from 0.05 to 5% by weight of the azole derivatives.
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3. An antifreeze concentrate for cooling systems in fuel cell drives as claimed in claim 1 or 2, containing, as azole derivatives, benzimidazole, benzotriazole, tolutriazole, 1H-1,2,4-triazole and/or hydrogenated tolutriazole.
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4. An antifreeze concentrate for cooling systems in fuel cell drives as claimed in any of claims 1 to 3, containing, in addition to the azole derivatives, ortho-silicic esters, from which ready-to-use aqueous coolant compositions having a silicon content of from 2 to 2 000 ppm by weight result.
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5. A ready-to-use aqueous coolant composition for cooling systems in fuel cell drives, which substantially comprises
- (a) from 10 to 90% by weight of 1,3-propanediol or mixtures of 1,3-propanediol with alkylene glycols and/or derivatives thereof,

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(b) from 90 to 10% by weight of water,

(c) from 0.005 to 5% by weight of the azole derivatives and

5 (d) if required, ortho-silicic esters,

obtainable by dilution of an antifreeze concentrate as claimed in any of claims 1 to 4 with ion-free water.

- 10 6. The use of five-membered heterocyclic compounds (azole derivatives) having 2 or 3 hetero atoms from the group consisting of nitrogen and sulfur, which contain no sulfur atom or not more than one sulfur atom and which may carry an aromatic or saturated six-membered fused moiety, for the preparation of antifreeze concentrates for cooling systems in fuel cell drives, based on 1,3-propanediol or mixtures of 1,3-propanediol with
- 15 alkylene glycols and/or derivatives thereof.
7. The use of an antifreeze concentrate as claimed in claim 6 for the preparation of ready-to-use aqueous coolant compositions having a conductivity of not more than 50 $\mu\text{S}/\text{cm}$ for cooling systems in fuel cell drives.